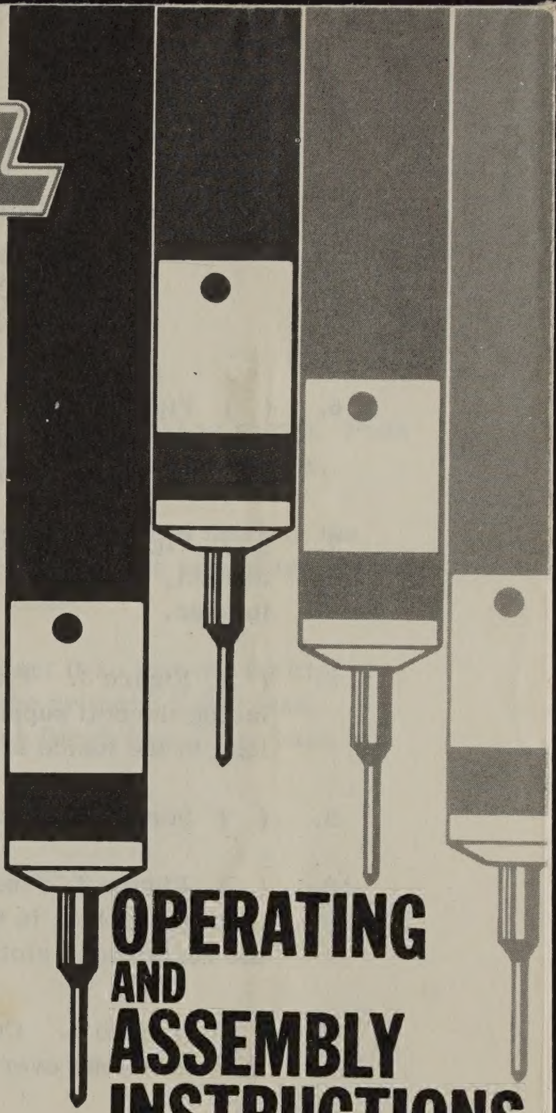
EICO PS-1
SIGNAL PROBE

EICO

PSI-1

SIGNAL INJECTOR PROBE



OPERATING AND ASSEMBLY INSTRUCTIONS

R-2

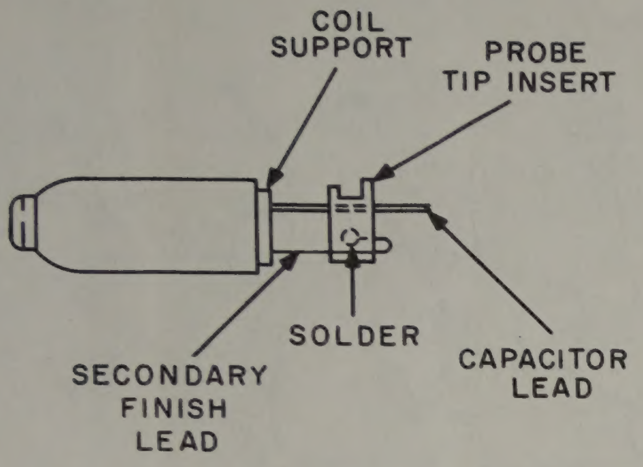


Figure 3.

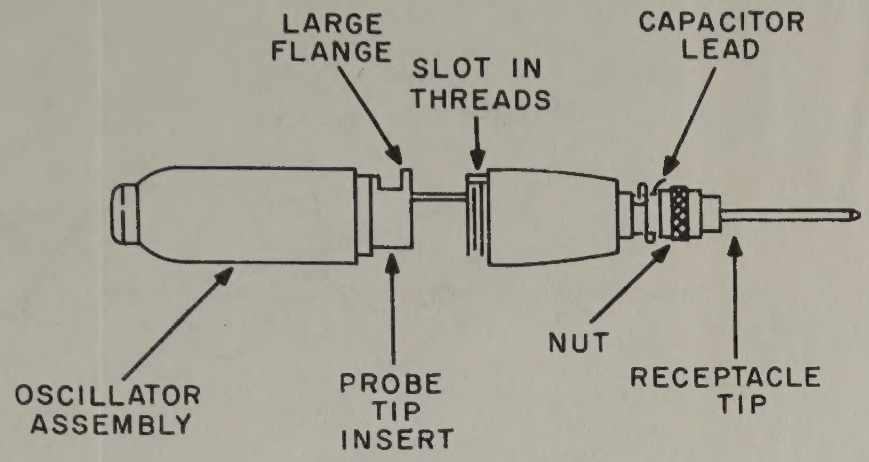


Figure 4.

2. ( ) Figure 5. Insert two 1.5-volt penlight cells, Burgess No. NE or equivalent, into the probe shell, positive terminals toward the open end. Now screw the probe tip (with oscillator assembly attached) into the shell so that the transistor case contacts a positive penlight cell terminal. This completes the assembly procedure.

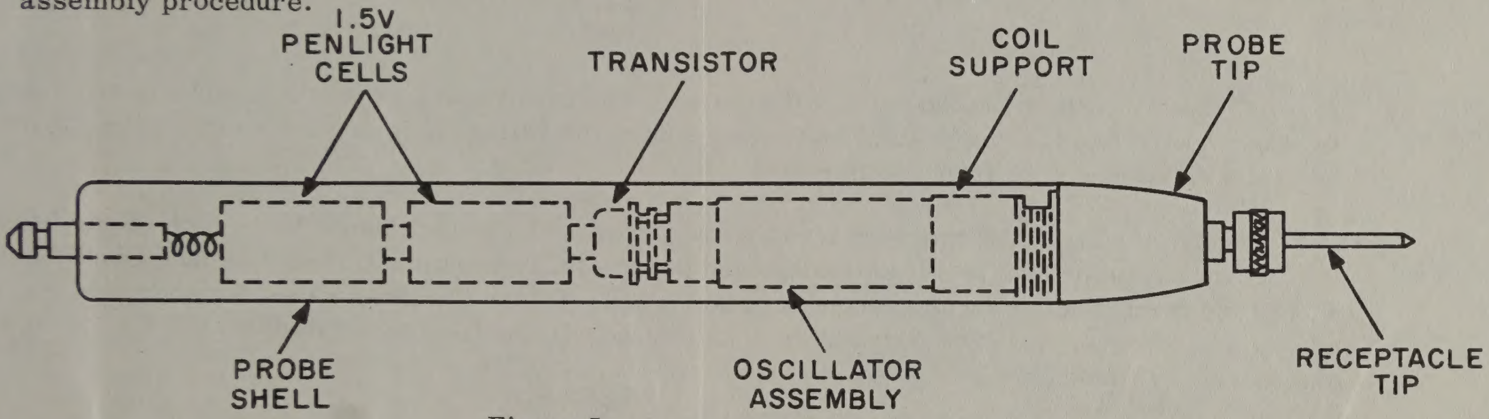


Figure 5.

EICO PROBES AVAILABLE INCLUDE:

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Supplies signal to be injected into any IF or RF radio and TV circuit. Instantaneous test to locate dead section of the receiver.

PST-2 SIGNAL TRACER PROBE
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HVP-2 HIGH VOLTAGE PROBE
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HVP-5 HIGH VOLTAGE PROBE
Use the self-contained meter to measure safely up to 30,000 volts. Precludes the need of additional bulky equipment.

EICO Electronic Instrument Co., Inc.
283 Malta Street, Brooklyn, N. Y. 11207

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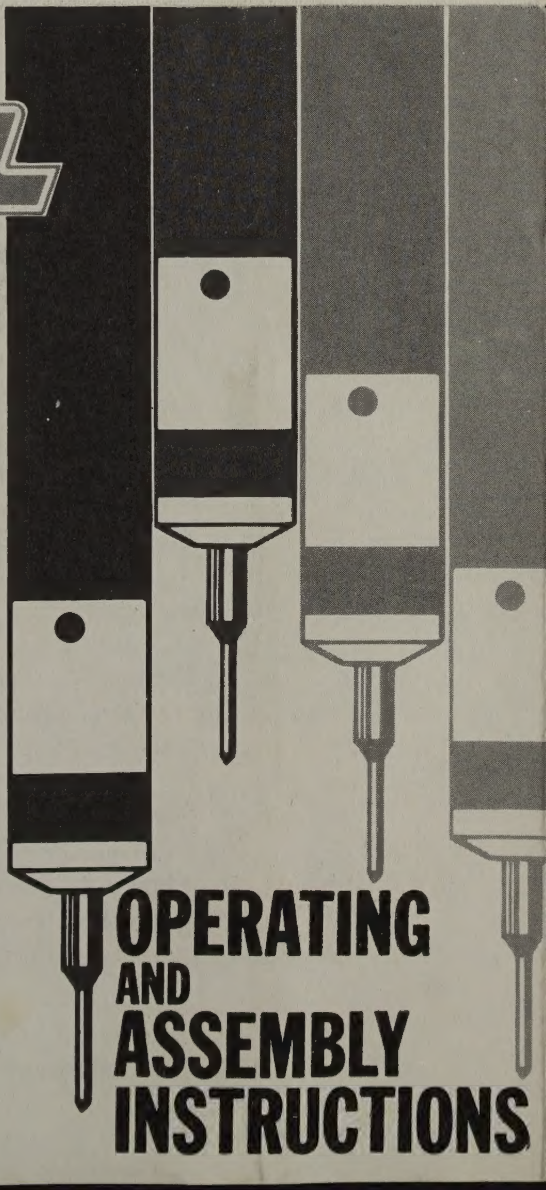


OPERATING AND ASSEMBLY INSTRUCTIONS

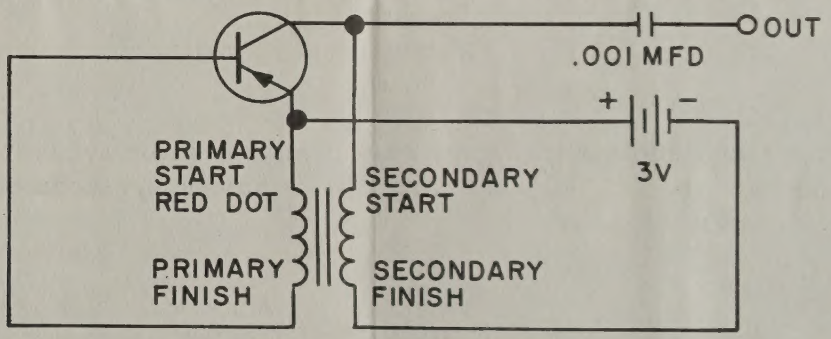
FUNCTION

This probe is a self-contained self-powered test instrument that provides a distinctive audio signal for use in localizing troubles in circuits covering a wide range of frequencies. This probe can be used from the low audio frequencies through the IF and beyond the most commonly used RF spectrum. It permits signal injection without making any ground connections. The 10,000-ohm output impedance of the probe makes it ideal for both transistor and vacuum tube circuits. This probe can be safely used in vacuum tube circuits in which voltages as high as approximately 600 volts are present.

SPECIFICATIONS

Output signal:	Approximately 50 volts peak-to-peak at 1 kHz (nominal).
Output impedance:	10,000 ohms
Power source:	Two Burgess penlight cells No. NE, Eveready 904, or equivalent
DC insulating voltage	600 volts
Weight:	Approximately 1 ounce
Size:	5-5/8" long by 1/2" diameter

SCHEMATIC DIAGRAM



Note

If you bought your probe in kit form, proceed to the Kit Assembly Instructions portion of this sheet.

CIRCUIT DESCRIPTION

Completely solid state, the PSI-1 probe consists of a transistor blocking oscillator operating at approximately 1 kHz. The deliberately distorted waveform is very rich in harmonics, making the output sufficiently broad-banded to stretch from 1000 Hz to over 300 mHz. The output signal is capacitor-coupled to a tip which is used as the actual signal injector. Because of its small size, the PSI-1 probe can be carried around in a shirt pocket, ready to perform any test for lost or weak signals.

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GENERAL INSTRUCTIONS

Operation of the probe is quite simple. Merely turn on the power and apply the probe tip to the circuit being tested. To check a system that does not work, start at the output stage and inject the probe signal into the control grid (or base) of the output stage. If a signal is heard, proceed to the next stage. Continue working your way toward the input of the system until a stage is reached where the probe signal will not penetrate. This is the faulty stage. It makes no difference whether the system is audio or RF; the PSI-1 probe can cover them all.

If a tapehead or phono cartridge channel is dead, the defect is either in the head or cartridge, the electronics, or the interconnecting cables. Check the electronics using the procedure described above. Next test the interconnecting cable by placing probe tip against "hot" lead of the head or cartridge. If signal is heard in both tests, the head or cartridge is probably defective.

PARTS LIST

	Quantity			
Stock #	Kit	Wired	Description	Price Each
35087	1	1	Coil, oscillator	$2.52
89836	1	1	Support, coil	.25
89843	1	1	Shell, probe	2.40
89887	1	1	Tip, probe (with insert)	1.00
51028	1	1	Tip, receptacle	.48
58307	1-1/2"	1-1/2"	Shrinkable tubing	1.04/ft
94037	1	1	2N404 Transistor	.59
22521	1	1	Capacitor, .001 mfd	.14
97094	1	1	Transistor pad	.12
66462	1	1	Instruction and construction folder	-

When ordering replacement parts, specify description and part number. Remittance must be made with order. Minimum billing $2.50. Prices and specifications are subject to change without notice.

KIT ASSEMBLY INSTRUCTIONS

1. ( ) Figure 1. Insert 3 leads from transistor into 3 of the 4 holes in the transistor pad as shown. Push transistor flush against the pad and identify the emitter, base, and collector leads of the transistor.

2. ( ) Figure 1. Study the lead arrangement of the oscillator coil. The lead near the red mark is the primary start. The lead next to the primary start is the primary finish, as shown. The secondary start and secondary finish leads are directly opposite the corresponding primary leads.

3. ( ) Figure 1. Place the oscillator coil against the transistor pad, and orient it so that the emitter lead is close to the primary start lead (red dot) and the base lead is next to the primary finish lead. Twist each pair of adjacent leads together, as shown, then solder the primary finish lead to the base lead and cut off excess wire. Dress soldered connections close to coil.

Note

The parts in figure 1 are shown apart for purposes of clarity, but must be put close together when assembling probe.

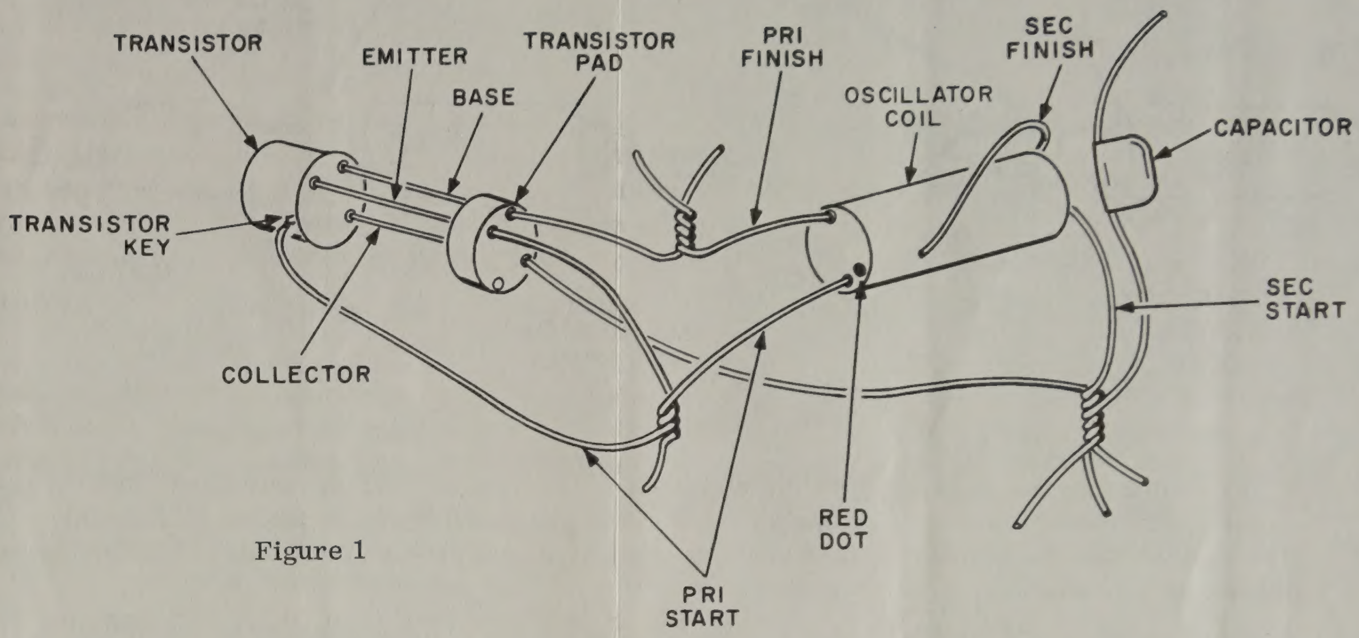

Figure 1

4. ( ) Figure 1. Place the free end of the primary start lead against the transistor key and solder. Trim off excess wire from primary start lead. Now solder the twisted primary start and emitter leads together and trim off excess wire from emitter lead.

5. ( ) Figure 1. Twist the collector lead around the secondary start lead. Now place either flat side of the .001 uf capacitor against the secondary end of the oscillator coil and twist one lead from the capacitor around the twisted collector and secondary start leads. Solder the three wires together and trim off excess wire. Dress soldered connection close to coil. Dress free end of capacitor AWAY from coil, and secondary finish lead next to coil, as shown.

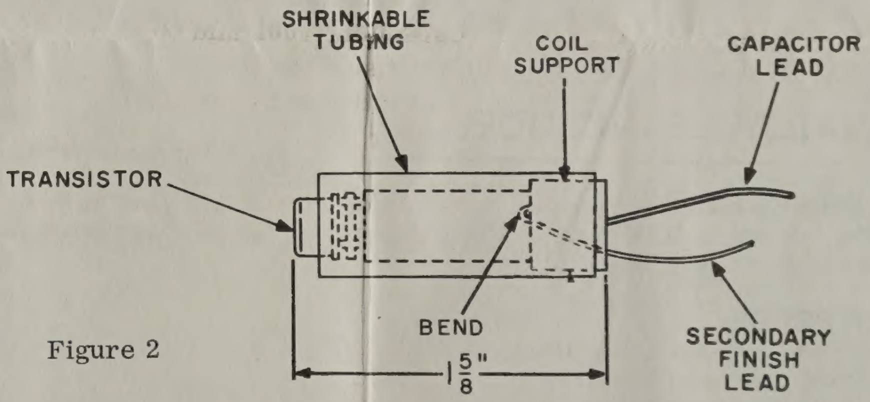

Figure 2

6. ( ) Figure 2. Slide the plastic coil support over the free end of the capacitor and secondary end of the oscillator coil, bending the secondary finish lead tightly about the coil support, as shown. The total length of the oscillator assembly with the coil support should be approximately 1-5/8 inches.

7. ( ) Figure 2. Slide the shrinkable tubing over the transistor, and down to the coil support of the probe contact, as shown. Light a match and heat the tubing until it shrinks against the coil support and transformer.

8. ( ) Figure 3. Place the metal PROBE TIP INSERT around the capacitor lead, with the small flange facing the coil support, and locate just beyond the coil support. Secure by soldering the secondary finish lead to the inside of the INSERT, as shown. Cut off any excess wire.

9. ( ) Screw the receptacle tip into the probe tip. Hand tighten.

10. ( ) Figure 4. Insert the oscillator assembly into the probe tip, capacitor lead first, and push the lead through the hole in the RECEPTACLE tip. Locate the large flange on the metal PROBE TIP INSERT in the rectangular slot in the threads of the probe tip.

11. ( ) Figure 4. Cut the exposed capacitor lead to 1/4 inch and wrap it around the tip below the threads. Fasten the nut over the tip so that it locks the exposed lead.

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